

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Frank Kilian et al.

Examiner: Farhad Ali

Serial No.: 10/750,002

Group Art Unit: 2446

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Title: CLUSTER ARCHITECTURE HAVING A STAR TOPOLOGY WITH CENTRALIZED SERVICES

PRE-APPEAL BRIEF REQUEST FOR REVIEW

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Applicants request review of the final rejection in the above-identified application in the Final Office Action dated March 9, 2010 (hereinafter "*Final Office Action*"), and the Advisory Action dated June 3, 2010 (hereinafter "*Advisory Action*"). No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested for the reasons stated below:

The Examiner rejected claims 1-9, 11-21, 23-25, and 27-31 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,954,757 B2 to Zargham et al. (hereinafter "*Zargham*") in view of U.S. Patent No. 6,081,807 to Story et al. (hereinafter "*Story*") and further in view of U.S. Patent No. 7,203,700 to Kumar et al. (hereinafter "*Kumar*").¹ *KSR v. Teleflex* provides a tripartite test to evaluate obviousness.

The rationale to support a conclusion that a claim would have been obvious is that *all the claimed elements were known* in the prior art and one skilled in the art could have combined the elements as claimed by known methods.²

"If *any of these [three] findings* cannot be made, then this rationale [of combining prior art elements according to known methods to yield predictable results] cannot be used to support a conclusion that the claim would have been obvious."³ Furthermore, a prior art reference that "teaches away" from the claimed invention is a significant factor to be considered in determining obviousness.⁴

Independent claim 1 recites, in part,

[O]ne or more of the plurality of instances to initiate registering or reregistering of instance-specific information with the message

¹ *Final Office Action* at 4. Note: the Examiner rejected claims 1-25, but Applicants assume the Examiner rejected claims 1-9, 11-21, 23-25, and 27-31 based on Applicants' previous cancellations of claims 10, 22, and 26 and additions of claims 27-31, and the Examiner's assertions on pages 23-26 of the Final Office Action that a combination of references teaches the elements of claims 27-31.

² See *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007); see also MPEP § 2143, emphasis added.

³ MPEP § 2143 (emphasis added).

⁴ See, e.g., *In re Gurley*, 27 F.3d 551, 554 (Fed. Cir. 1994); MPEP § 2145(X)(D)(1).

server upon starting or restarting, respectively, of the message server, the instance-specific information including a confirmation of a connection between the one or more of the plurality of instances and the message server.

The Examiner conceded that “[t]he modified Zargham [that is, *Zargham* in view of *Story*] does not disclose this recitation.”⁵ However, in support of the assertion that *Kumar* discloses this recitation, the Examiner cited to five different portions of *Kumar*. In the *Final Office Action*, the Examiner cited to *Kumar* at col. 5, lines 1-15 (hereinafter “portion 1”), col. 5 lines 16-27 (hereinafter “portion 2”), and col. 6, lines 3-9 (hereinafter “portion 3”).⁶ In the *Advisory Action*, the Examiner also cited to *Kumar* at col. 3, lines 35-48 (hereinafter “portion 4”), and col. 7, lines 37-45 (hereinafter “portion 5”).⁷ In the *Advisory Action*, the Examiner also cited to FIGs. 8-12.⁸

In portion 1, *Kumar* discusses establishing connectivity between “a new instance” and “at least one component in a network of computers.”⁹ However, establishing connectivity between a new instance and at least one component of a network of computers is not the same as “**registering or reregistering instance-specific information with [a] message server**,” as recited in independent claim 1 (emphasis added). For example, even if a connection is established between the new instance and the at least one component (e.g., a message server), it does not follow that the new instance performs any further action with respect to the one component, much less registering or registering instance-specific information with the one component.

In portion 1, *Kumar* also states that “client computers . . . may be informed of the new instance.”¹⁰ However, *Kumar* does not teach or suggest that informing client computers of the new instance relates in any way to “**registering or reregistering instance-specific information**” with the one component. For example, *Kumar* does not teach or suggest that a mechanism used to inform the client computers of the new instance requires a registering or registering of instance-specific information with the one component.

In portion 2, *Kumar* discusses an “automatic addition of a new instance to a group of existing instances.”¹¹ However, adding a new instance to a group of existing instances is not the

⁵ *Id.* at 5.

⁶ *Id.* at 6.

⁷ *Advisory Action* at 2.

⁸ *Id.*

⁹ *Kumar* at col. 5, lines 1-3.

¹⁰ *Id.* at col. 5, lines 4-5.

¹¹ *Id.* at col. 5, lines 17-18

same as “**registering or reregistering instance-specific information with [a] message server**,” as recited in claim 1. For example, Kumar does not teach or suggest that adding a new instance to a group of existing instances includes registering or reregistering instance-specific information with another component (e.g., a message server) of the network. To the contrary, with respect to FIG. 2, *Kumar* discusses three “acts” that correspond to the adding of the new instance to the group of instances: “copying and renaming (in an act known as ‘cloning’) a corresponding object of an instance that is currently existing in the group,”¹² “set[ting] up . . . connectivity between the new instance and the group of instances,”¹³ and “start[ing] . . . the [new instance].”¹⁴ These three acts do not relate to registering or reregistering instance-specific information with a message server.

In portion 3, *Kumar* discusses “a starter computer” that “checks that the network has connectivity to [a] newbie computer.”¹⁵ However, checking whether the network has connectivity to the newbie computer is not the same as “**registering or reregistering instance-specific information with [a] message server**,” as recited in claim 1 (emphasis added). In portion 4, as described above, *Kumar* discusses the three acts corresponding to the adding of the new instance to the group of instances.¹⁶ However, as described above, these three acts do not relate to registering or reregistering instance-specific information with a message server.

In portion 5, *Kumar* discusses a “shared map” that “is used only for discovery purposes.”¹⁷ *Kumar* goes on to state “the instances (e.g. when they start up) register in a group (for the application) of a cluster group service (which is software of a cluster layer) to discover each other.”¹⁸ However, even if registering with a cluster group service is equivalent to a “registering . . . with a message server,” which Applicants do *not* admit, *Kumar* does not teach or suggest that an instance is to register or register with the cluster group service “**upon a starting or restarting, respectively**” of the cluster group service. To the contrary, in portion 5 and

¹² *Id.* at col. 3, lines 28-31; act 10 of FIG. 2.

¹³ *Id.* at col. 3, lines 34-39; act 20 of FIG. 2.

¹⁴ *Id.* at col. 3, lines 38-39; act 30 of FIG. 2.

¹⁵ *Id.* at col. 6, lines 3-7.

¹⁶ *See id.* at col. 3, lines 35-48; *see also* acts 10, 20, and 30 of FIG. 2.

¹⁷ *Id.* at col. 7, lines 37-38.

¹⁸ *Id.* at col. 7, lines 43-44.

elsewhere, *Kumar* discusses only that instances register in the group “when they start up.”¹⁹ In other words, *Kumar* indicates that an instance registers in the group upon a starting of the *instance*, not upon a starting or restarting of *any other component* of the network.

In FIGs. 8-12, *Kumar* depicts a user interface through which an administrator may add or remove an instance. However, *Kumar* does not teach or suggest, in FIGs 8-12 or elsewhere, that an instance is to initiate a registering or registering *upon a starting or restarting* of any other component (e.g., a message server) of the network. In fact, to the contrary, *Kumar* shows in various examples that an instance is added in response to an action by an administrator with respect to a user interface. Furthermore, although *Kumar* mentions that “manual effort in adding a new instance is reduced or even eliminated,”²⁰ *Kumar* does not teach or suggest that the elimination of this manual effort involves a registering or registering of instance-specific information with any other component (e.g., a message server) of the network “*upon a starting or restarting, respectively*” of the other component.

Therefore, for the above reasons, *Kumar* does not teach or suggest, at least, “*registering or reregistering of instance-specific information with the message server upon starting or restarting, respectively, of the message server,*” as recited in independent claim 1 (emphasis added). As the references cited by the Examiner neither teach nor suggest the claim elements discussed above, no combination of the references can provide these claim elements. It is therefore submitted that independent claims 1 is non-obvious under the guidance of *KSR*. Independent claims 6, 14, and 18 recite claims limitations similar or analogous to those discussed above with respect to claim 1, and it is thus submitted that these claims are also non-obvious. In addition, any claim depending from a non-obvious independent claim is also non-obvious.²¹ Therefore, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-9, 11-21, 22-25, and 27-31 under 35 U.S.C. § 103(a).

Each of independent claims 1, 7, 14, and 18 also recites “a message server having no persistent state such that the message server can be restarted after a failure without performing state recovery operations.” The Examiner conceded that *Zargham* does not disclose this

¹⁹ *Id.* at col. 7, lines 42-43; see also *id.* at col. 7, lines 51-52 (“*When the new instance J starts*, it registers with the listener defined in the listener file.”) (Emphasis added.)

²⁰ *Id.* at col. 19-22.

²¹ See MPEP § 2143.03.

recitation.²² Instead, the Examiner cited various portions of *Story* in support of the assertion that *Story* teaches this recitation.²³ However, *Story* teaches away from this recitation. In particular, *Story* states that “there are problems associated with implementing a stateless file server” because “operating-system mechanisms to support [traditional file access]” are “stateful.”²⁴ *Story* further states that “on many operating systems, to have to recreate this state information for each read or write operation adds significant system overhead and reduces system performance to an unacceptable degree.”²⁵ Thus, *Story* is directed to creating a “pseudo-open” state for a file “when a request for accessing the file is received.”²⁶ To that end, *Story* states that if “there is no pseudo-open state established for the file, the pseudo-open state will be established [when the request is received].” Because *Story* expressly disparages the concept of a stateless server that does not establish a pseudo-open state corresponding to each server request, *Story* teaches away from a server that “can be restarted after a failure *without performing state recovery operations*,” as recited in each of independent claims 1, 16, 14, and 18 (emphasis added). Accordingly, claims 1-9, 11-21, 22-25, and 27-31 are non-obvious for this additional reason.

Applicants respectfully submit that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone the undersigned at (408) 660-2016 to facilitate prosecution of this application. If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 8th day of July, 2010.

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Name

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Signature

²² *Final Office Action* at 4.

²³ *Id.* at 5.

²⁴ *Story* at col. 50, lines 50-56.

²⁵ *Id.* at col. 1, lines 56-59.

²⁶ *Id.* at col. 2, lines 32-35.